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McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

**Sixth
Edition**

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On the cover: Representation of a fullerene molecule with a noble gas atom trapped inside. At the Permian-Triassic sedimentary boundary the noble gases helium and argon have been found trapped inside fullerenes. They exhibit isotope ratios quite similar to those found in meteorites, suggesting that a fireball meteorite or asteroid exploded when it hit the Earth, causing major changes in the environment. (Image copyright © Dr. Luann Becker. Reproduced with permission.)

Over the six editions of the Dictionary, material has been drawn from the following references: G. M. Garrity et al., *Taxonomic Outline of the Prokaryotes*, Release 2, Springer-Verlag, January 2002; D. W. Linzey, *Vertebrate Biology*, McGraw-Hill, 2001; J. A. Pechenik, *Biology of the Invertebrates*, 4th ed., McGraw-Hill, 2000; U.S. Air Force Glossary of Standardized Terms, AF Manual 11-1, vol. 1, 1972; F. Casey, ed., *Compilation of Terms in Information Sciences Technology*, Federal Council for Science and Technology, 1970; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, Department of Defense, 1967; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, National Aeronautics and Space Administration, 1965; *Glossary of Stinfo Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; R. E. Huschke, *Glossary of Meteorology*, American Meteorological Society, 1959; *ADP Glossary*, Department of the Navy, NAVSO P-3097; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology*, White Sands Missile Range, New Mexico, National Bureau of Standards, AD 467-424; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission.

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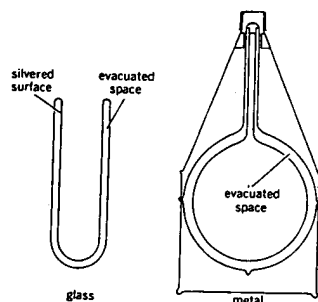
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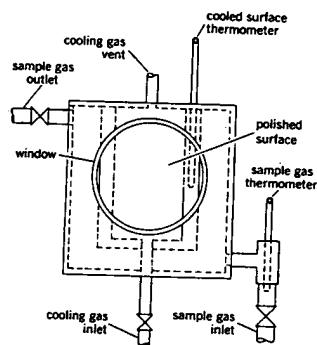
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DEWAR FLASK



Typical Dewar containers.

DEW-POINT HYGROMETER



Dew-point type of hygrometer.

near the ground, the temperatures of which have fallen below the dew point of the surface air because of radiational cooling during the night but are still above freezing. { 'dū }

Dewar calorimeter [ENG] 1. Any calorimeter in which the sample is placed inside a Dewar flask to minimize heat losses. 2. A calorimeter for determining the mean specific heat capacity of a solid between the boiling point of a cryogenic liquid, such as liquid oxygen, and room temperature, by measuring the amount of the liquid that evaporates when the specimen is dropped into the liquid. { 'dū-ər, kal-ə-rim-əd-ər }

Dewar flask [PHYS] A vessel having double walls, the space between being evacuated to prevent the transfer of heat and the surfaces facing the vacuum being heat-reflective; used to hold liquid gases and to study low-temperature phenomena. { 'dū-ər, flask }

Dewar structure [ORG CHEM] A structural formula for benzene that contains a bond between opposite atoms. { 'dū-ər, strək-chər }

dewaterer [MECH ENG] Wet-type mechanical classifier (solids separator) in which solids settle out of the carrier liquid and are concentrated for recovery. { dē'wōd-ər-ər }

dewatering [ENG] 1. Removal of water from solid material by wet classification, centrifugation, filtration, or similar solid-liquid separation techniques. 2. Removing or draining water from an enclosure or a structure, such as a riverbed, caisson, or mine shaft, by pumping or evaporation. { dē'wōd-ər-ing }

dewaxed oil [MATER] Lubricating oil that has had a portion of the wax removed. { dē'wakst 'oil }

dewaxing [CHEM ENG] Removing wax from a material or object; a process used to separate solid hydrocarbons from petroleum. { dē'waks-ing }

dewcap [OPTICS] An open tube attached to the end of a refracting telescope, to prevent moisture from condensing on the objective. { 'dū,kap }

dew cell [ENG] An instrument used to determine the dew point, consisting of a pair of spaced, bare electrical wires wound spirally around an insulator and covered with a wicking wetted with a water solution containing an excess of lithium chloride; an electrical potential applied to the wires causes a flow of current through the lithium chloride solution, which raises the temperature of the solution until its vapor pressure is in equilibrium with that of the ambient air. { 'dū,sel }

dewclaw [VERT ZOO] 1. A vestigial digit on the foot of a mammal which does not reach the ground. 2. A claw or hoof terminating such a digit. { 'dū,klo }

dewetting [MET] Flow of solder away from the soldered surface during reheating following initial soldering. { dē,wed-ing }

deweylite [MINERAL] A mixture of clinochrysolite and stensite. Also known as gymnite. { 'dū-ē,līt }

dewindtite [MINERAL] $\text{Pb}(\text{UO}_2)_2(\text{PO}_3)_2 \cdot 3\text{H}_2\text{O}$ A canary-yellow secondary mineral consisting of a hydrous phosphate of lead and uranium. { dē'win,tīt }

de Witte relation [GEOPHYS] Graphical plot of the relation between electrical conductivity and distance over which the conductivity is measured through reservoir rock with clay minerals. (the effect is similar to two parallel electrical circuits), the current passing through the conducting clay minerals and the water-filled pores. { dē'wit rē'lā-shən }

dewlap [ANAT] A fleshy or fatty fold of skin on the throat of some humans. [BOT] One of a pair of hinges at the joint of a sugarcane leaf blade. [VERT ZOO] A fold of skin hanging from the neck of some reptiles and bovines. { 'dū,lap }

dew point [CHEM] The temperature and pressure at which a gas begins to condense to a liquid. [METEOROL] The temperature at which air becomes saturated when cooled without addition of moisture or change of pressure; any further cooling causes condensation. Also known as dew-point temperature. { 'dū,point }

dew-point boundary [CHEM ENG] On a phase diagram for a gas-condensate reservoir (pressure versus temperature with constant gas-oil ratios), the area along which the gas-oil ratio approaches zero. { 'dū,point,baun-drē }

dew-point composition [CHEM ENG] The water vapor-air composition at saturation, that is, at the temperature at which water exerts a vapor pressure equal to the partial pressure of water vapor in the air-water mixture. { 'dū,point,kām-pō'zish-ən }

dew-point curve [CHEM ENG] On a PVT phase diagram, the

line that separates the (one-phase (gas) region, temperature or pressure occurs. { 'dū,point }

dew-point depression The difference between the liquid-vapor dew point of a liquid (such as water) from the number of degrees below the temperature. { 'dū,point,for-myō-lā }

dew-point formula [METEOROL] The formula employed to estimate the height of clouds, under suitable atmospheric conditions. { 'dū,point,for-myō-lā }

dew-point hygrometer An instrument used for determining the dew point at which vapor being cooled condenses. Also known as cold-spot hygrometer. { 'dū,point,ad-ər }

dew-point pressure [CHEM] The pressure at which a system is at its dew point temperature and pressure at which condensation occurs. { 'dū,point,pre-shər }

dew-point recorder [ENG] An instrument for continuous recording of the temperature at which the dew point of a gas is reached. Also known as mechanized dew-point recorder. { 'dū,point,rek-əd-ər }

dew-point reservoir [METEOROL] A region in which the temperature lies between the cricondentherm (maximum temperature at which two phases can coexist) and the dew point. Also known as retrograde condensation region. { 'dū,point,rez-əv-wār }

dew-point spread [METEOROL] The difference between the air temperature and the dew point. { 'dū,point,spred }

dew-point temperature See dew point. { 'dū,point,prə-chər }

dew retting [MICROBIO] A process in which the stems of fiber plants are retted by the action of bacteria with the formation of pectin decomposition products. { 'dū,ret-ing }

dexaminedae [INV ZOO] A family of insects in the suborder Gammeridea. { dēk-sə-mīn-ēd-ē }

dexterotropic [BIOL] Turning to the right. { dēk-sə-trōp-ik }

dextral drag fold [GEOL] A fold in which a given surface bed is displaced to the right. { 'dēk-strəl,drag,fōld }

dextral fault [GEOL] A strike-slip fault in which the block on the right approaches the fault from the left. Also known as right-slip fault. { 'dēk-strəl,fault }

dextral fold [GEOL] An asymmetric fold in which the limb appears to be offset to the right along the long limb. { 'dēk-strəl,fōld }

dextran [BIOCHEM] Any of a group of polysaccharides $(\text{C}_6\text{H}_{10}\text{O}_5)_n$ that yield glucose on hydrolysis. { 'dēk-strən }

dextranase [BIOCHEM] An enzyme that breaks down the glucosidic linkages in dextran. { 'dēk-strən-ās }

dextrin [BIOCHEM] A polymer of glucose that mediate in complexity between dextran and glucose. { 'dēk-strən }

dextrinization [ORG CHEM] The process of converting starch to dextrin. { 'dēk-strən-ī-zā-shən }

dextrinize [ORG CHEM] To convert starch to dextrin. { 'dēk-strən-īz }

dextro See dextrorotatory. { 'dēk-strō }

dextrocardia [MED] The presence of the heart in the right hemithorax, with the cardiac apex directed to the right. { 'dēk-strō,kar-dē-ə }